Pribylov Islands * affirm that one old male seal, recognised by the loss of one of his flippers, returned seventeen years in succession. The ground they occupy, called a "rookery," is the space between the high-water line and the foot of the cliffs. The sandy beach forms the play-ground for the pups, the uplands being their sleeping places. Like the bees, they are

> "Creatures that, by rule in nature, teach
> The art of order to a peopled kingdom."

The arrangement of their dominions are adopted by common consent, and enforced by the elders with much severity. The old males and the full-grown females are alone allowed upon the rookeries; the young seals swim about during the day, at night retiring to the uplands. The natives of the Pribylov Islands called the old males "Married Seals," the old females "Mothers," and the young females "Bachelors."

During the winter months the rookeries of the Pribylov Islands are entirely deserted, except by a few stragglers; but Capt. Musgrave, who was wrecked on the Auckland Islands, south of New Zealand, tells us that there numbers remain all the year round. In the spring a few old veteran males—the chiefs of the herd—make their appearance near the islands, swimming about for several days. If all is safe, they land and examine the rookery; they depart for a few days, and return accompanied by a number of other veteran males. These land, each taking up a position, reserving for himself a space of about thirty square yards, which he defends against all comers. About two months later the females begin to make their appearance. It is the duty of the "Bachelors" to drive them on to the rocks, the nearest adult male going down to meet each female, coaxing her until he can get between her and the shore. His manner then immediately changes, and with an angry growl he drives her up to his resting-place. It seems to be the object of each of these polygamous sultans to attach to himself a harem of from fifteen to twenty wives. When the males nearest the water have made their choice, those in the next row higher up watch for an opportunity to steal the wives of their more fortunate neighbours. When all the females have landed and been distributed among the claimants, no further change takes place, each sultan walking round and round his family and driving off all intruders. This is the account given by Capt. Bryant, commander of the station at the Pribylov Islands. Capt. Musgrave, in his account of the Seals of the southern hemisphere, does not indicate that this jealous distribution is so customary.

The cubs are born a few days after the arrival of their mothers, and always on shore. They have a great aversion for the water at first, and are taught to swim by their mothers. It is a most curious fact that during all the while these creatures are on shore they remain absolutely without food; they arrive excessively fat, and, as is not surprising after a fast of two months, depart extremely lean. When the young can shift for themselves the rookeries are broken up.

Respecting the different species of these Sea Lions and their geographical distribution, Magellan, in 1519, was the first to notice their chief peculiarities. He found them on an island south of the River Plate, and called them Sea Wolves. No naturalist, however, distinguished them from the Seals proper, with the exception of the Russian Steller, who, visiting the Aleutian Islands in the middle of the last century, saw the two species which are found there, and described them as the Sea Bear and the Sea Lion. Linnæus, in 1758, nevertheless included them all in his genus *Phoca*, and it was not till 1800 that Péron again separated them. Subsequently, they have been minutely studied by Dr. J. E. Gray, and Dr. Peters of Berlin. Both these authors, however, have been far too fond of making new genera and species upon single skulls, or even single skins. It seems to me better to retain Péron's original genus *Otaria* for the whole group, the number of species of which amount to nine. True Seals inhabit the Arctic and Antarctic seas, as well as the temperate regions in both hemispheres, together with the Antilles and Madeira. The Otarias are more tolerant of warmth, and are apparently more susceptible to changes of climate. A remarkable fact about their distribution is that none are found in the Atlantic, except in its extreme south. From the mouth of the River Plate they extend all round the coasts of South America and the adjoining islands. Proceeding north, they are numerous upon the coast of California, and extend round by the Aleutian Islands to the coast of Japan. Their most northern known station is that of the Pribylov Islands; further investigation will perhaps reveal their existence in some of the islands north and south of the equator in the Pacific Ocean. They are found all round the coasts of New Zealand, the Aucklands, Tasmania, and Southern Australia. They are said to inhabit Kerguelen's Land and the Crozets: we also know that there is one species at least near Capetown, a specimen from that locality being now alive in the Zoological Gardens.

(*To be continued.*)

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* Situated in Behring Sea.

NOTES

AN appeal is being made by the Committee for the Exploration of the Victoria Cave, Settle, for additional funds; the work, we much regret to say, being actually at a stop from want of means. This is not as it should be, and we feel sure that the state of matters only needs to be made known to the scientific public in order to have it remedied. The importance of these explorations need not be insisted on in these pages; results have been already achieved of the highest value to the geologist, the historian, and the antiquary. What further records may be found at the cave in lower and earlier deposits than those yet investigated, is a question which can only be solved by actual work. The bottom of the cave has never yet been reached. The series of bones obtained during the past year is exceedingly fine, and may challenge comparison with any in the kingdom; and altogether the work, besides bearing already many important results, is one of great promise. The British Association have given three several grants of 50*l*., but by far the greater share of the expense has fallen on a few individuals who have contributed liberally. This should be so no longer, and we earnestly hope that all our readers will do what they can to help forward an undertaking of so great importance. Subscriptions should be forwarded to John Birkbeck, jun., hon. treasurer of the "Settle Caves Exploration Fund," the Craven Bank, Settle, Yorkshire.

A TELEGRAM dated Bombay, April 22, states that the members of the Solar Eclipse Expedition have left that place on their return to England.

NEWS is to hand of a recent volcanic eruption in Iceland; the following particulars we gather from the Icelandic correspondent of the *Scotsman*:—Shortly before Christmas 1874 earthquakes were experienced over the north-east part of Iceland. About Christmas, columns of smoke were seen rising, and therefore a party were sent from the My-vatn on the 15th of January to reconnoitre. They went straight southwards over Odadahravn, and made for the Dyngjufjoll. The Dyngjufjoll form a circle of mountains, and within this circle there is a lava stretch called Askja (The Box). Here the exploring party found the eruption to have taken place, and they state that a large crater has been formed, from which lava and clay are being thrown hundreds of feet upwards. They found many small craters grouped round the big one, and from several of these water was flowing. All around the earth was rent into large fissures, and at some places it had subsided to a considerable extent. Since this visit, the column of smoke has been seen daily in clear weather, and slight earthquakes have been felt at intervals. On the night of the 18th February, the gleam of a great fire was seen from Grimsstodum, in a western direction. A new exploring party found the fire to be twenty miles from the inhabited district, to the west of the so-called Sveinagia, in the Austurfjollum. The eruption had taken place from several craters. Some have piled up the lava around them into shapes resembling castles; from others the lava had flowed in a stream, and formed a lava-field of large extent. Most of the craters were smoking when the party arrived. The lava stream from all the craters is between two and three miles long, and from 600 to 800 yards broad. At many places the glowing fire was seen on looking down through the fissures, and the crust was found to be two or three feet thick. In two or three places small hollow cones had been formed, capable of containing two or three barrels inside. Explosions occurred at intervals in the crater, and lava, earth, and stones were thrown up to a height computed at 160 yards. The distance from My-vatn to the craters is calculated to be from forty to fifty English miles.

IN connection with the above, it is interesting to note that reports from Sweden and Norway state that during the night of March 29-30 last, a heavy rain of ashes or sand took place from the west coast of Norway to the Swedish frontier; the whole of the country was covered with grey dust to such an extent that from a pint of snow more than a tablespoonful of residue was left after the snow had melted. Some chemists of Christiania have examined the ashes, and one of them, Prof. Waage, states that the dust consists of little, irregular, but sharp-edged grains, almost all colourless—some few are of brown colour—and they consist principally of silicates. Acids extract some lime, iron, and alumina from their powder. The professor thinks it likely that the dust originates from an eruption in Iceland. This view is confirmed by a mineralogical investigation made on another sample of the dust at the Christiania University, by Profs. Kjerulf and Fearnley; they recognised the dust to consist of fragments of pumice-stone which is identical with the Hecla pumice-stone. According to Swedish newspapers, some traces of the dust-fall were observed even in the vicinity of Stockholm. Prof. Kjerulf also thinks it highly probable that an eruption took place in Iceland. The distance from the Iceland volcanoes to the Swedish frontier is about the same as that from Mount Etna to the Baltic.

THE following information regarding an eruption of the volcano of Ternate (Moluccas) we have received from Dr. A. B. Meyer:—Mr. van Musschenbroek, Resident of Ternate, having made an ascent to the volcano, writes under date Feb. 5: "About fifty small new craters, or rather deep wells, have appeared along the walls of the large crater, and independent of the proper cone of eruption; they are all deep (but it is difficult to say how deep), and about twenty feet in diameter. On some spots, the 'Alang-alang' green was turned upside down. These new, small craters were surrounded by still smaller ones, and by stones thrown out from the interior. This happened at the same time as a rather heavy eruption of the volcano Roeang, near Tagoelanda." Tagoelanda, Dr. Meyer states, is an island in the north of Celebes. He witnessed part of a heavy eruption of the Roeang in 1871 (see NATURE, vol. iv. p. 286). This coincident action of the volcanoes of Ternate and Roeang in January 1875 is interesting, because the same coincidence happened in 1871. Then the eruption of the Roeang was felt in the form of earthquakes and thundrous sounds in the earth, as far as Gorontalo in Celebes to the south, and as far as Ternate (Moluccas) to the east. At a former eruption of the Roeang, in August 1870, the ashes are said to have been thrown to the north as far as Mindanao (Philippine Islands), about 200 miles distant. The Roeang, therefore, appears to be still now a formidable centre of volcanic action.

DURING the present term at Oxford, Prof. Lawson and Prof. Ray Lankester are conducting a class from 10 till 4 o'clock each day, which presents features of special interest on account of its novelty. The course is one of general biological instruction, devised so as to give a survey of the leading features of plants and animals. The practical work is preceded by a lecture. Great pains has been taken to get the types required, some being very difficult to procure, and quite novel as educational specimens. Among these may be included Æthalium, Gonium, Cordylophora, and Amphioxus. We hope that Profs. Lawson and Lankester will find that their enterprising attempt to raise the standard of biological study will be sufficiently appreciated to lead them to continue the course on the next seasonable opportunity.

THE Cambridge Museum and Lecture-rooms Syndicate have issued their Ninth Annual Report. They draw attention to the insufficient accommodation for examination purposes and the insufficiency of space for the students in comparative anatomy. Considerable use has been made during the past year of the Cavendish Laboratory, which is being rapidly fitted at the expense of his Grace the Chancellor, the Duke of Devonshire, with the apparatus required for physical research. The want of proper accommodation for Dr. M. Foster's classes in Physiology is painfully evident, as those rooms are neither sufficiently large nor sufficiently well lighted for class rooms. The donations made to the different collections have been numerous.

IN a Congregation at Oxford University on Tuesday, a statute, the principal effect of which would be that the examinations in the Natural Science Schools would be held only once a year, and that honours might be obtained in different subjects at different times—creating, in fact, independent Schools of Physiology, Chemistry, and Physics—was thrown out, after a sharp debate, by 25 votes to 23.

THE Council of the Senate of Cambridge University propose to offer a grace early this term for the appointment of a syndicate to consider the propriety of establishing a professorship of Mechanism and Engineering.

THE High School at Newcastle-under-Lyne, which will open after the summer, under Mr. Kitchener, is fortunate enough to have already met with a liberal and wise friend in Mr. Mayer. He has founded a 50*l.* exhibition from the school to the Universities, for Science and Mathematics, besides two minor exhibitions for Art.

WE are informed that Mr. A. R. Wallace has in hand a work on the Geographical Distribution of Animals, which will be looked for with great interest.

THE Annual General Meeting of the Iron and Steel Institute will be held in the rooms of the Institution of Civil Engineers, 25, Great George Street, Westminster, S.W., on Wednesday, May 5, and two following days; the president-elect being Mr. William Menelaus. Among the papers to be read are the following:—Notes of a Visit to Mines and Ironworks in the United States; and on the Sum of Heat Utilised in Smelting Cleveland Ironstone, by Mr. I. Lowthian Bell, F.R.S. The Estimation of Small Quantities of Phosphorus in Iron and Steel, by Spectrum Analysis, by Sir John G. N. Alleyne, Bart. The Manufacture of Bessemer Steel in Belgium, by M. J. Deby, Brussels. The Summer Meeting will be held at Manchester early in September.

SIR HENRY RAWLINSON, at Monday's meeting of the Royal Geographical Society, intimated that the Society had awarded the two medals of the year to the two great Arctic explorers, Lieut. Payer and Lieut. Weyprecht. With reference to the prizes the Society offered to the public schools, the following are the awards:—Physical Geography—Gold medal, Henry Alexander Miers (Eton College); bronze medal, Archibald Edward Garrod (Marlborough College). Political Geography—Gold medal, Sydney H. B. Saunders (Dulwich College); bronze medal, W. C. Graham (Eton College).

THE Paris Geographical Society held last week its annual meeting in the great hall of the *Société d'Encouragement*, Rue Bonaparte; more than 3,000 persons were present. The number of members of the Society has largely increased since MM. Thiers and Barthélemy Saint-Hilaire joined it. Preparations are being actively made for the forthcoming International Geographical Meeting, which is to be held at the Tuileries, as we have already intimated, in August next. The offices of the Congress are already opened in the *Pavillon de Flore*, but all communications should be sent to the Geographical Society, 3, Rue Christine.

At the meeting of the French Geographical Society last week, a gold medal was presented to Mr. Washburne for the family of the late Capt. Hall, the American Arctic explorer.

In the University of Edinburgh, Miss Flora Masson has passed the examinations for University certificates in Arts for women, with honours of the first class, in English Literature; and Miss Annette Conan Doyle has passed the ordinary examinations in English Literature, Chemistry, and Mathematics.

M. Eugène Godard will probably obtain authority to hold an international balloon race in Paris. The proceeds will be given to the families of Sivel and Spinelli.

The death is announced on Saturday last, at the early age of thirty-seven years, of Mr. Winwood Reade, whose name is no doubt familiar to readers of Nature as the author of "Savage Africa" and the "African Sketch Book."

The Norwegian Storthing has adopted the Government Bill for the introduction of the metrical system of weights and measures.

M. Wurtz is to remain the Dean of the Paris École de Médecine. The report of his resignation, to which allusion was made in our last number, has been contradicted.

In a paper on the age of the Tertiary deposits of Malta, published in the third part of the *Sitzungsberichte der Akademie der Wissenschaften in Wien*, Dr. T. Fuchs states that these beds belong to two distinct stages; the older, representing the "Bormidian" of Sismonda (Aquitanian), may be regarded as equivalent to the Oligocene marine Molasse of Switzerland and Bavaria, the strata of Bajas, Merignac, and some less known Central European deposits; the newer as equivalent to the "Leythakalk" of Vienna (Sarmatian stage). He states, in opposition to previous authors, that these two series of beds have scarcely any fossils in common, and remarks especially that the great Pectens and Echinoderms do not occur in the upper strata. Dr. Fuchs believes that many Syracusan Pliocene fossils have been described as derived from Malta. The two series are conformable in their stratification.

In a second paper in the same publication, Dr. Fuchs announces the occurrence of Miocene beds, which he also identifies with the "Leythakalk," unconformably underlying the Pliocene deposits near Syracuse, and forming a great plateau to the west of that city.

The same journal contains an interesting contribution to the palæontology of the Arctic regions, in the shape of descriptions of fossil shells from the Carboniferous Limestone and Zechstein rocks of Horn Sound, on the south-western coast of Spitzbergen, collected during the recent Austrian expedition to those regions. The author of the paper, Dr. F. Toula, enumerates seventeen species of Brachiopoda, three of which are described as new, and a new Aviculopecten. Most of the fossils are figured.

Mr. Van Voorst has just ready for publication "The Flora of Eastbourne," by Mr. F. C. S. Roper, F.L.S., President of the Eastbourne Natural History Society.

Prof. Helmholtz' work "On the Sensations of Tone, as a Physiological Basis for the Theory of Music," translated (with the author's sanction) from the third German edition, with additional notes and an additional appendix, by Mr. A. J. Ellis, F.R.S., is nearly ready, and will be published in the course of a week. It will be issued by Messrs. Longman and Co.

The same firm will publish, during next month, "A Short Manual of Heat," for the use of Schools and Science Classes, by the Rev. A. Irving, Second Master of the High School, Nottingham.

The following information, with regard to the Gresham Lectures, we take from the *Journal of the Society of Arts*:—"It appears that the nomination to vacancies as they occur among the lecturers, is alternate between those members of the Gresham Committee who are appointed by the Corporation of London, and those appointed by the Mercers' Company. It is understood that the filling up the present vacancy, occasioned by the resignation of the Rev. Jos. Pullen, the lecturer on astronomy, rests with the Corporation side of the Committee, and that they have determined to commence a reform in the administration of this bequest. They therefore intend to make the appointment annual, dependent on the popularity of the lecturer, to increase the number of English lectures, and to get rid altogether of the useless Latin lecture. It is to be hoped that the Mercers' Company will take up the question in a similar spirit."

The *Journal of the Society of Arts* contains some details concerning Scientific and Literary Societies in India. The Bengal Asiatic Society was founded by Sir Wm. Jones in 1774, and the Madras Literary Society was formed in 1818. The Bombay branch of the Asiatic Society dates from the year 1804, and in 1817 it was grafted on to the Royal Asiatic Society in England as the Bombay branch. Its Journal was established in 1841, and the publication has been regularly kept up ever since at intervals of one or two years. The Bombay Geographical Society, which dates from 1830, was in 1873 amalgamated with the Bombay branch of the Asiatic Society. The Medical and Physical Society, though it languished from 1863 to 1869, has now been revived, and published a large volume of transactions in 1871. The Sassoon Mechanics' Institute has 346 members, courses of lectures, and a good library of reference of 13,935 books. In Calcutta, besides the venerable Asiatic Society, there are several other societies both for Europeans and natives, and for the latter alone. In Bombay, the Students' Literary and Scientific Society consists exclusively of natives, and has 111 members.

The additions to the Zoological Society's Gardens during the past week include a Great Kangaroo (*Macropus giganteus*) from New South Wales, presented by Mr. Carleton V. Blyth; a second specimen and a Red Kangaroo (*Macropus rufus*) born in the Gardens; a Persian Gazelle (*Gazella subgutturosa*) from Persia, presented by Mr. C. Czarinkow; two Kinkajous (*Cercoleptes caudivolvulus*) from North Venezuela, presented by Mr. Chas. Campbell Downes; a Grey Ichneumon (*Herpestes griseus*) from India, presented by Mr. H. M. Grellier; a Macaque Monkey (*Macacus cynomolgus*), White var., from Samar, Philippines, presented by Mr. J. Ross; a Crowned Eagle (*Spizaëtus coronatus*) from Senegal, received in exchange; two Silky Marmosets (*Midas rosalia*) from Brazil; an Ocelot (*Felis pardalis*) from South America, purchased.

EASTER WEEK AT THE SORBONNE

(*Réunion des Délégués des Sociétés Savantes des Départements.*)

The idea of utilising the Easter vacation as the date, and the venerable Sorbonne as the place, of the annual gathering of the representatives of the learned societies of France was a very happy one, and, like all good ideas, it is crowned by a yearly increasing success. Numbers are but a feeble guide as to the importance of a gathering, yet even in numbers the list of delegates was strong (more than 250); but the true value of the meeting will be better estimated when we have given a brief report of some of the communications read and discussed, in doing which we shall necessarily mention some of the best-known names. We have purposely used the term "some of the communications," because, as the science list alone contains